

1           --2. On a host instantiating at least one copy of a managed characteristic application, a  
2 program control device responsive to signals ordering start up of an additional copy of the managed  
3 characteristic application or configuration, or shutdown of the least one copy of the managed  
4 characteristic application responsive to first information regarding performance and status of all  
5 applications including copies of the managed characteristic application and second information  
6 regarding performance of the host.--

1           --3. The program control device as recited in claim 2, wherein the managed characteristic  
2 application comprises a scalable application.--

1           --4. The program control device as recited in claim 2, wherein the managed characteristic  
2 application comprises a fault tolerant application, where the degree of fault tolerance is selectable  
3 by a user.--

1           --5. The program control device as recited in claim 2, wherein the managed characteristic  
2 application comprises a selectable priority application.--

1           --6. The program control device as recited in claim 2, wherein the managed characteristic  
2 application further responds to user-initiated control actions.--

1           --7. The program control device as recited in claim 2, wherein the program control device  
2           modifies the configuration of the managed characteristic application responsive to instantaneous  
3           tasking by a user.--

1           --8. In a distributed environment comprised of hosts instantiating copies of a managed  
2           characteristic application, a program control device responsive to signals ordering start up,  
3           configuration, shutdown or a move of a selected one of the managed characteristic applications  
4           responsive to first information regarding performance and status of all running applications including  
5           the managed characteristic applications, second information regarding performance of the hosts, and  
6           third information regarding performance of the distributed environment.--

1           --9. The program control device as recited in claim 8, wherein the managed characteristic  
2           application comprises a scalable application.--

1           --10. The program control device as recited in claim 8, wherein the managed characteristic  
2           application comprises a fault tolerant application, where the degree of fault tolerance is selectable  
3           by a user.--

1           --11. The program control device as recited in claim 8, wherein the managed characteristic  
2           application comprises a selectable priority application.--

1           --12. The program control device as recited in claim 8, wherein the managed characteristic  
2 application further responds to user-initiated control actions.--

1           --13. The program control device as recited in claim 8, wherein the program control device  
2 modifies the configuration of the managed characteristic application responsive to instantaneous  
3 tasking by a user.--

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1           --14. In a grid system comprised of N hosts instantiating M managed characteristic  
2 applications, program control software instantiated by at least the N hosts, comprising:

3           N program control agents residing on a respective one of the N hosts and providing direct  
4 control over startup, configuration, and shutdown of applications on the respective one of the N  
5 hosts; and

6           a program controller operatively coupled to the N program control agents which receives one  
7 of interactive and automatic application control requests and generates specific control orders which  
8 are sent to the individual N program control agents responsive thereto,

9           where N and M are positive integers.--

1           --15. The program control software as recited in claim 14, wherein the specific control orders  
2 include one of startup orders permitting instantiation of an (M+1)th managed characteristic

3 application or shutdown and configuration orders permitting a status change regarding one of the M  
4 managed characteristic applications.--

1 --16. The program control software as recited in claim 14, further comprising:  
2 K program control displays permitting interactive control of distributed applications,  
3 where K is a positive integer. --

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1 --17. The program control software as recited in claim 16, wherein the K program control  
2 displays depict current status and the configuration of the M managed characteristic applications.--

1 --18. The program control software as recited in claim 16, wherein the K program control  
2 displays depict current status of all applications instantiated on the grid system.--

1 --19. The program control software as recited in claim 16, wherein each of the K program  
2 control displays comprises a graphical user interface (GUI) permitting a user to determine the status  
3 of each of the K program control agents and the program controller.--

1 --20. The program control software as recited in claim 16, wherein the K program control  
2 displays respond to L configuration files, wherein L is a positive integer.--

1           --21. The program control software as recited in claim 20, each of the K program control  
2 displays permits a user to one of create new configuration files and edit an existing one of the L  
3 configuration files.--

1           --22. The program control software as recited in claim 20, wherein selected ones of the L  
2 configuration files correspond to predefined scenario configurations.--

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1           --23. The program control software as recited in claim 14, wherein the specific control orders  
2 permit a subset of the M managed characteristic applications to be one of started and stopped.--

1           --24. The program control software as recited in claim 23, wherein all of the M managed  
2 characteristic applications in the subset are one of started and stopped simultaneously.--

1           --25. The program control software as recited in claim 23, wherein the M managed  
2 characteristic applications in the subset are one of started and stopped in a predetermined sequence.

3           --

1           --26. The program control software as recited in claim 23, wherein all of the M managed  
2 characteristic applications in the subset are one of started and stopped in a predetermined sequence  
3 having a respective delay time between each event in the predetermined sequence.--

1           --27. The program control software as recited in claim 23, wherein first ones of the M  
2 managed characteristic applications comprise scalable applications and second ones of the M  
3 managed characteristic applications comprise fault tolerant applications, where the degree of fault  
4 tolerance is selectable by a user.--

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2           --28. The program control software as recited in claim 23, wherein first ones of the M  
3 managed characteristic applications comprise selectable priority applications and second ones of the  
4 M managed characteristic applications comprise fault tolerant applications, where the degree of fault  
5 tolerance is selectable by a user.--

1           --29. The program control software as recited in claim 23, wherein first ones of the M  
2 managed characteristic applications comprise scalable applications, second ones of the M managed  
3 characteristic applications comprise fault tolerant applications, where the degree of fault tolerance  
4 is selectable by a user, and third ones of the M managed characteristic applications comprises  
5 selectable priority applications.--

1           --30. The program control software as recited in claim 14, wherein the M managed  
2 characteristic applications comprise scalable applications.--

1           --31. The program control software as recited in claim 14, wherein the M managed  
2           characteristic applications comprise fault tolerant applications, where the degree of fault tolerance  
3           is selectable by a user.--

1           --32. The program control device as recited in claim 14, wherein the M managed  
2           characteristic applications comprises selectable priority applications.--

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1           --33. The program control software as recited in claim 14, wherein:  
2           each of the N hosts operates in accordance with a selected one of R operating systems;  
3           the N program control agents implement the orders via system call mechanisms specific to  
4           the particular operating system of a corresponding one of the N hosts;  
5           R is a positive integer; and  
6           N is greater than or equal to R. --

1           --34. The program control software as recited in claim 14, wherein each of the N program  
2           control agents provides feedback to the program controller regarding the current status and  
3           configuration of all applications running on a respective one of the N hosts and host status for that  
4           one of the N hosts.--

1           --35. The program control software as recited in claim 14, further comprising:

2 K program control displays permitting interactive control of distributed applications,  
3 wherein:

4 each of the K program control displays comprises a graphical user interface (GUI) permitting  
5 a user to determine the status of each of the N program control agents and the program control  
6 function;

7 each of the K program control displays responds to a respective subset of L configuration  
8 files, wherein K and L are positive integers; and

9 the program controller, using information from specification files different than the L  
10 configuration files generates the specific control orders by translating the control function requests  
11 into the specific control orders.--

1 --36. In a distributed environment comprised of N hosts instantiating M managed  
2 characteristic applications, program control software instantiated by at least the N hosts, comprising:

3 N program control agents residing on a respective one of the N hosts and providing direct  
4 control over startup, configuration, and shutdown of applications on the respective one of the N  
5 hosts;

6 a program controller operatively coupled to the N program control agents, which receives  
7 one of user-initiated and program initiated application control requests and information comprising  
8 first information regarding performance and status of all running applications, including the managed  
9 characteristic applications, second information regarding performance of the hosts, and third



information regarding performance of the distributed environment, and which generates specific control orders which are sent to the individual N program control agents responsive thereto; and

K program control displays permitting generation of the user-initiated application control requests applied to the program controller,

wherein:

each of the K program control displays instantiates a graphical user interface (GUI) permitting a user to determine the status of each of the N program control agents and the program control function;

each of the K program control displays responds to a respective subset of L configuration files;

the program controller, using information from specification files different than the L configuration files generates the specific control orders by translating the control function requests into the specific control orders; and

K, L, M and N are all positive integers.--

--37. The program control software as recited in claim 36, wherein the specific control orders include one of startup orders permitting instantiation of an (M+1)th managed characteristic application or shutdown, and configuration orders permitting a status change regarding one of the M managed characteristic applications.--

1 --38. The program control software as recited in claim 36, wherein:

2 each of the N hosts operates in accordance with a selected one of R operating systems;

3 the N program control agents implement the orders via system call mechanisms specific to

4 the particular operating system of a corresponding one of the N hosts;

5 R is a positive integer; and

6 N is greater than or equal to R. --

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1 --39. Software stored on at least one host for converting N networked hosts into a resource

2 managed system instantiating M managed characteristic applications, comprising:

3 a first function group which monitors the host and network resources

4 a second function group which provides general-purpose application event reporting and

5 event correlation capabilities;

6 a third function group which provides the reasoning and decision-making capabilities for the

7 Resource managed system; and

8 a fourth function group which provides program control capabilities permitting starting,

9 stopping, and configuring of selected ones of the M managed characteristic applications on

10 respective ones of the N hosts in the resource managed system, the fourth function group further

11 comprising:

12 N program control agents residing on a respective one of the N hosts and providing direct  
13 control over startup, configuration, and shutdown of the selected ones of the M managed  
14 characteristic applications on the respective one of the N hosts; and

15 a program controller operatively coupled to the N program control agents which receives one  
16 of interactive and automatic application control requests and generates specific control orders which  
17 are sent to the individual N program control agents responsive thereto,

18 wherein the automatic application control request is generated by the third function group.--

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1 --40. The software as recited in claim 39, wherein the specific control orders include one of  
2 startup, shutdown, and configuration orders.--

1 --41. The software as recited in claim 39, wherein the fourth function group further  
2 comprises:

3 K program control displays permitting interactive control of the M managed characteristic  
4 applications. --

1 --42. The software as recited in claim 41, wherein each of the K program control displays  
2 comprises a graphical user interface (GUI) permitting a user to determine the status of each of the  
3 N program control agents and the program controller.--

1           --43. The software as recited in claim 41, wherein the K program control displays respond  
2 to L configuration files, wherein L and K are positive integers.--

1           --44. The software as recited in claim 43, each of the K program control displays permits a  
2 user to one of create a new configuration file and edit an existing one of the L configuration files.--

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1           --45. The software as recited in claim 43, wherein selected ones of the L configuration files  
2 correspond to predefined scenario configurations.--

1           --46. The software as recited in claim 39, wherein:  
2 each of the N hosts operates in accordance with a selected one of R operating systems;  
3 the N program control agents implement the orders via system call mechanisms specific to  
4 the particular operating system of a corresponding one of the N hosts; and  
5 N and R are positive integers and N is greater than or equal to R. --

1           --47. The software as recited in claim 39, wherein each of the N program control agents  
2 provides feedback to the program controller regarding the current status and configuration of all  
3 applications running on a respective one of the N hosts.--